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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,506	08/30/2001	Pai-Hung Pan	2919.5US (96-499.2)	4348

24247 7590 03/27/2007
TRASK BRITT
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EXAMINER	
FOURSON III, GEORGE R	
ART UNIT	PAPER NUMBER
2823	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
2 MONTHS	03/27/2007	PAPER

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09/944,506

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.

EXAMINER

ART UNIT	PAPER

20070318

DATE MAILED:

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Commissioner for Patents

See attached Examiner's amendment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Fourson whose telephone number is (571) 272-1860. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith, can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

George Fourson
Primary Examiner
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GFourson
March 18, 2007

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Art Unit: 2823

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/944,506
Filing Date: August 30, 2001
Appellant(s): PAN, PAI-HUNG

Brick G. Power
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/23/07 appealing from the Office action mailed 4/28/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 1-4,6,13,18,19,21,23 and 24.

Claims 7 and 9-12 are allowed.

Claims 5,14,20 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8 and 15-17 have been canceled.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,506,168	MORITA et al	5-1996
5,521,422	MANDELMAN et al	12-1994

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-4,6,13,18,19,21,23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Morita et al.

Morita et al discloses in figure 72 a semiconductor substrate 1, silicon nitride buffer film 30 and trench isolation structure consisting of element 3(37) and the portion of layer 11 under 3(37). The trench isolation structure includes a flat surface and an integral ledge extending outwardly from the trench and contacting only an area of an active surface of the substrate adjacent the trench. The nitride buffer film 30 contacts the side surface of the integral ledge. There is no boundary between the integral ledge and the remainder of the trench isolation structure.

Claims 1-4,6,13,18,19,21,23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Mandelman et al.

Mandelman et al discloses the intermediate product between the steps depicted in figures 4a and 4b a semiconductor substrate 10, silicon nitride buffer film 12 and trench isolation structure consisting of element 18a and layer 34. The trench isolation structure includes a flat surface and an integral ledge extending outwardly from the trench and contacting only an area of an active surface of the substrate

adjacent the trench. The nitride buffer film 12 contacts the side surface of the integral ledge. There is no boundary between the integral ledge and the remainder of the trench isolation structure.

(10) Response to Argument

Appellant argues that Morita et al discloses that the films 11 and 3(37) are formed in separate steps and of different materials and therefor are not both part of the trench isolation structure. However, the film 3(37) and the portion of film 11 under 3(37) are two portions of a trench structure that serves the function of device isolation and are therefor encompassed by the term "trench isolation structure". The term "structure" is commonly defined as an arrangement of parts in a body and as such does not preclude portions being formed at separate times or of different materials. It is noted that the instant trench isolation structure is formed in two portions in different steps (figures 7-9).

Appellant argues that if the portion of layer 11 under 3(37) is part of the trench isolation structure then the trench isolation structure does not contact only a portion of the substrate surface adjacent the trench. However, the portion of layer 11 not under 3(37) is not part of the isolation structure. Therefor, the integral ledge comprising the portion of layer 11 under 3(37) contacts only the substrate surface adjacent the trench.

Applicant argues that there is a discernable boundary between the integral ledge and the remainder of the trench isolation structure pointing to layer 11 and layer 3(37) being formed at separate times and of different materials. However, although there is a discernable boundary between layers 11 and 3(37), both layers are part of the trench isolation structure and both layers are part of the ledge. The claim requires no discernable boundary between the ledge and the remainder of the structure which is shown by Morita et al.

Appellant argues that Mandelman et al discloses that the films 34 and 18a are formed in separate steps and of different materials and therefor are not both part of the trench isolation structure. Appellant further argues that because 34 is not part of the isolation structure the isolation structure does not contact the substrate. However, the film 34 and 18a are two portions of a trench structure that serves the function of device isolation and are therefor encompassed by the term "trench isolation structure". The term "structure" is commonly defined as an arrangement of parts in a body and as such does not preclude portions being formed at separate times or of different materials. Therefor, the integral ledge consisting of the layer 18a and layer 34 contacts only the substrate surface adjacent the trench. It is noted that the instant trench isolation structure is formed in two portions in different steps (figures 7-9). Furthermore, Mandelman is silent with respect to the material of layer 18a but instead discloses that the material is an insulator.

Applicant argues that there is a discernable boundary between the integral ledge and the remainder of the trench isolation structure pointing to layer 34 and 18a being formed at separate times and of different materials. However, although there is a discernable boundary between layers 34 and 18a, both layers are part of the trench isolation structure and both layers are part of the ledge. The claim requires no discernable boundary between the ledge and the remainder of the structure which is shown by Mandelman et al.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

George Fourson

Conferees:

Matthew Smith

Darren Schuberg